

CLAIMS

What is claimed is:

1. A network management system comprising:
a plurality of element management servers to manage a set of network elements,
one of said plurality of element management servers to be designated as the master server, said master server to determine which of said plurality of element management servers to manage each of said set of one or more network elements; and
a peered service resident on each of said plurality of element management servers to handle a request from a client.
2. The network management system of claim 1 where each of said plurality of element management server includes:
a federated service, said federated service to access data stored in a element management server memory, said element management server memory includes data to describe each of said set of network elements to be managed by each of said plurality of element management servers.
3. The network management system of claim 2 where said federated service to access nodal alarm data in said element management server memory.
4. The network management system of claim 2 where said federated service to provide data to a data store.
5. The network management system of claim 2 where said federated service to provide event log data to a data store.
6. The network management system of claim 1 where said master server to determine which of said plurality of element management servers to manage each of said set of network elements.

7. The network management system of claim 1 where said plurality of element management servers to determine which of said plurality of element management servers is designated as said master server.
8. The network management system of claim 7 where said plurality of element management servers to determine with a bully algorithm which of said plurality of element management servers is designated as said master server.
9. The network management system of claim 1 where said peered service resident on said plurality of element management servers to access a database to handle said request.
10. The network management system of claim 1 where said peered service resident on said plurality of element management servers to access event log data in said database.
11. The network management system of claim 1 where said peered service resident on said plurality of element management servers to calculate a circuit route to handle said request.
12. The network management system of claim 11 where said peered service resident on said plurality of element management servers to calculate a circuit route to handle said request further comprises:
said peered service resident on said plurality of element management servers
accessing a data store for routing information used to calculate said circuit route.
13. The network management system of claim 11 where said peered service resident on said plurality of element management servers to calculate said circuit route to handle said request further comprises:
said peered service
selecting which of said plurality of element management servers that
manage said set of network elements to perform a circuit sub-route calculation, said circuit-route calculation to calculate a circuit route

for said set of network elements managed by said selected plurality of element management servers;

transmitting a message to said selected plurality of element management servers, said message directing said selected plurality of element management servers to calculate said circuit sub-route for said set of network elements managed by said selected plurality of element management servers;

receiving said circuit sub-route from said selected plurality of element management servers; and

consolidating said circuit sub-route into said circuit route.

14. The network management system of claim 1 where said client to randomly select one of said plurality of element management servers to handle said request.
15. The network management system of claim 1 where said client to randomly access a peered service on said plurality of element management servers.
16. The network management system of claim 1 where said client to generate a view of said of network elements and said plurality of element management servers from data stored in a database.
17. The network management system of claim 1 where said client to randomly access a federated service on said plurality of element management servers.
18. The network management system of claim 1 where said client to generate a view of said set of network elements and said plurality of element management servers from data stored in said element management server memory.
19. A machine-readable medium that provides instructions, which when executed by a set of one or more processors, cause said set of processors to perform operations comprising:
receiving a request to calculate a circuit route, said circuit route calculation to be performed on a set of one or more network elements, said set of network

elements to be managed by a set of one or more element management servers;

selecting which of said plurality of element management servers that manage said set of network elements to perform a circuit sub-route calculation, said circuit-route calculation to calculate a circuit route for said set of network elements managed by said selected plurality of element management servers;

transmitting a message to said selected plurality of element management servers, said message directing said selected plurality of element management servers to calculate said circuit sub-route for said set of network elements managed by said selected plurality of element management servers;

receiving said circuit sub-route from said selected plurality of element management servers; and

consolidating said circuit sub-route into said circuit route.

20. The machine-readable medium of claim 19 further comprising:
provisioning a circuit along said circuit route.
21. A machine-readable medium that provides instructions, which when executed by a set of one or more processors, cause said set of processors to perform operations comprising:
receiving a request to calculate a circuit sub-route, said circuit sub-route calculation to be performed on a set of one or more network elements, said set of network element to be managed by a element management server, said request to include a destination of said route;
calculating said circuit sub-route; and
replying to said request, said reply including said calculated circuit sub-route.
22. The machine-readable medium of claim 21 where said calculating said circuit sub-route includes:

[illegible]

- 21

28. The machine-readable medium of claim 23 where said master server to determine which of said plurality of element management servers to manage each of said set of network elements.
29. The machine-readable medium of claim 23 where said plurality of element management servers to determine which of said plurality of element management servers is designated as said master server.
30. The machine-readable medium of claim 29 where said plurality of element management servers to determine with a bully algorithm which of said plurality of element management servers is designated as said master server.
31. The machine-readable medium of claim 23 where said peered service resident on said plurality of element management servers to access a database to handle said request.
32. The machine-readable medium of claim 23 where said peered service resident on said plurality of element management servers to access event log data in said database.
33. The machine-readable medium of claim 23 where said peered service resident on said plurality of element management servers to calculate a circuit route to handle said request.
34. The machine-readable medium of claim 33 where said peered service resident on said plurality of element management servers to calculate a circuit route to handle said request further comprises:
said peered service resident on said plurality of element management servers
accessing a data store for routing information used to calculate said circuit route.
35. The machine-readable medium of claim 33 where said peered service resident on said plurality of element management servers to calculate said circuit route to handle said request further comprises:

said peered service

selecting which of said plurality of element management servers that manage said set of network elements to perform a circuit sub-route calculation, said circuit-route calculation to calculate a circuit route for said set of network elements managed by said selected plurality of element management servers;

transmitting a message to said selected plurality of element management servers, said message directing said selected plurality of element management servers to calculate said circuit sub-route for said set of network elements managed by said selected plurality of element management servers;

receiving said circuit sub-route from said selected plurality of element management servers; and

consolidating said circuit sub-route into said circuit route.

36. The machine-readable medium of claim 23 where said client to randomly select one of said plurality of element management servers to handle said request.
37. The machine-readable medium of claim 23 where said client to randomly access a peered service on said plurality of element management servers.
38. The machine-readable medium of claim 23 where said client to generate a view of said of network elements and said plurality of element management servers from data stored in a database.
39. The machine-readable medium of claim 23 where said client to randomly access a federated service on said plurality of element management servers.
40. The machine-readable medium of claim 23 where said client to generate a view of said set of network elements and said plurality of element management servers from data stored in said element management server memory.